DWIRTS

DWI RECIDIVISM IN TEXAS
1985 THROUGH 1988

Texas Commission on
Alcohol and Drug Abuse

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Results of the
DWI Recidivism Tracking System

Prepared by
Eric V. Fredlund, Ph.D.

Texas Commission on Alcohol and Drug Abuse
Austin, Texas
May 1991

 TCADA is a state agency headed by six commissioners appointed by the governor. TCADA provides educational materials on substance use, develops prevention, intervention, and treatment programs, and conducts studies on the problems of substance use in Texas.

Texas Commission on Alcohol and Drug Abuse
9001 North IH-35, Suite 105
Austin, Texas 78753-5233
(512) 349-6600, (800) 832-9623
Web site: www.tcada.state.tx.us

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PREFACE

As we approach the end of the 20th century, the safety hazard caused by impaired drivers is still a vexing problem. Since the 1970s, many efforts have been made to reduce the crashes and injuries caused by drinking and driving. Laws in Texas have been enacted which increase penalties, require blood alcohol concentration (BAC) testing, and set per se BAC levels for intoxication. Although the total number of people arrested for DWI between 1985 and 1989 dropped annually, the number of multiple DWI offenders arrested annually has remained virtually the same. This indicates that a number of impaired drivers continue to drink and drive, despite the penalties. The following report documents that the statewide, standardized DWI Education program, which has been utilized in Texas since 1982, is one of the best preventions against DWI recidivism among first offenders. However, the report also shows that multiple DWI offenders do not respond as well as first-time DWI offenders to the DWI Education program, and thus require a more intensive intervention effort to change their destructive behavior. The Texas DWI Intervention program, piloted in 1990, is targeted to the multiple offender with a goal of reducing further recidivism.

In 1991, DWI-related motor vehicle costs in Texas will be over $192 million; decreased productivity due to DWI-related accidents will cost over $57 million. The Texas Commission on Alcohol and Drug Abuse is committed to the prevention of DWI recidivism through its support of the DWI Education and Intervention programs.

Bob Dickson, Executive Director
Texas Commission on Alcohol and Drug Abuse

ACKNOWLEDGEMENTS

The DWI Recidivism Tracking System (DWIRTS) has been a collaborative effort among several Texas state agencies with responsibilities in the area of DWI, including the Department of Public Safety (DPS), the Texas Commission on Alcohol and Drug Abuse (TCADA), the State Department of Highways and Public Transportation (SDHPT), and the Texas Department of Criminal Justice/Community Justice Assistance Division (TDCJ/CJAD). Funding for the study came from SDHPT. Jenny Kavinsky Hannifin of TCADA compiled and edited the document. The following individuals were instrumental in the formation of DWIRTS, and in formulating the content of this report:

Steve Boline,
Department of Public Safety

Don Buckmaster,
Texas Department of Criminal Justice/Community Justice Assistance Division

Maury Dennis,
Texas A&M University

Robby Duffield,
Texas Commission on Alcohol and Drug Abuse

Eric Fredlund,
Texas Commission on Alcohol and Drug Abuse

Mary Lauderdale,
Department of Public Safety

John McKay,
State Department of Highways and Public Transportation

Marvel Maddox,
Hayes County Adult Probation

Roy Moss,
Sam Houston State University

Nancy Mounce,
Texas A&M University

Robert Owen,
Department of Public Safety

Terry Pence,
State Department of Highways and Public Transportation

Jim Taylor,
State Department of Highways and Public Transportation

Richard Williford,
Texas Commission on Alcohol and Drug Abuse

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I. INTRODUCTION

Each year, 20 percent of licensed drivers drive legally intoxicated but only 5 percent are convicted of DWI in their life.[1] On average, a person drives two hundred times at a 0.10 percent blood alcohol concentration (BAC), or one hundred times at a 0.15 percent BAC, before he or she is arrested for DWI.[2] DWI is common, apprehension is rare, and those arrested have likely driven drunk many times before their first arrest.[3] These generalizations are doubly applicable to repeat offenders who have beaten the long odds against apprehension for DWI more than once.

Although the impact of crashes caused by drivers under the influence is obvious, the detrimental effect of the repeat offender on the law enforcement, judicial, and correctional activities designed to discourage DWI (i.e., the DWI countermeasure system) is not widely acknowledged. Repeat offenders contribute disproportionately to the workload and ensure a never-ending supply of arrestees, overcrowded county court dockets, and full county jails. Fewer repeat offenders would mean that efforts could be redirected to discouraging DWI in the general population, and ultimately to reducing accident rates.

This document primarily describes patterns of repeat DWI offenses. The analysis is based on examination of approximately one-half million driving records of Texans arrested for DWI between 1985 and 1988. Driving records were processed by the DWI Recidivism Tracking System (DWIRTS), an automated driving record interpretation system. DWIRTS utilized computer software to gather information about DWIs from computerized driving records. The development of this software ensues from a two-year cooperative effort among state agencies with responsibilities in the area of DWI: the Texas Commission on Alcohol and Drug Abuse (TCADA), the State Department of Highways and Public Transportation (SDHPT), the Department of Public Safety (DPS), and the Texas Department of Criminal Justice/ Community Justice Assistance Division (TDCJ/CJAD). Funding for the study came from SDHPT.

II. EXECUTIVE SUMMARY

General Trends in Texas DWI Offenses

• DWI arrests declined by 21 percent between 1985 and 1988; this reduction corresponds closely to a 19 percent reduction in per capita alcohol consumption during the same period.

• In 1985 Texas county courts adjudicated 149,649 DWI cases, resulting in 111,071 convictions (74 percent of all arrests); in 1988, there were 107,986 DWI cases and 86,380 convictions (80 percent of all arrests).

DWI First Offenders and Recidivists

• DWI arrests of *first offenders* declined by 34 percent between 1985 and 1988, which suggests that fewer Texans were drinking and driving.

• DWI arrests of *repeat offenders* remained unchanged between 1985 and 1988, which suggests that a stable minority of Texans persisted in drinking and driving.

• The percent of offenders who were DWI recidivists increased from 28 percent in 1985 to 36 percent in 1988.

• The more times an individual has been arrested for DWI, the more likely it is he or she will be arrested again for DWI.

• DWI offenders are most likely to be rearrested within one year of their first DWI; risk of rearrest decreases rapidly in the second year, and more slowly in the third and fourth years following arrest (Figure 1). Thus, efforts to prevent future drinking and driving should begin as soon as possible after initial arrest, and continue through the second year following the offense.

Effect of DWI Education on Recidivism

• DWI offenders who receive probation/DWI education are less likely to recidivate than those who receive direct conviction. Of probated offenders, those who complete the required DWI Education class are less likely to recidivate that those who do not (Figure 2).

FIG. 1 AVERAGE NUMBER OF DWI OFFENDERS (PER 100,000) REARRESTED DAILY, ONE TO FOUR YEARS AFTER INITIAL ARREST: TEXAS FIRST OFFENDERS, 1985-1988

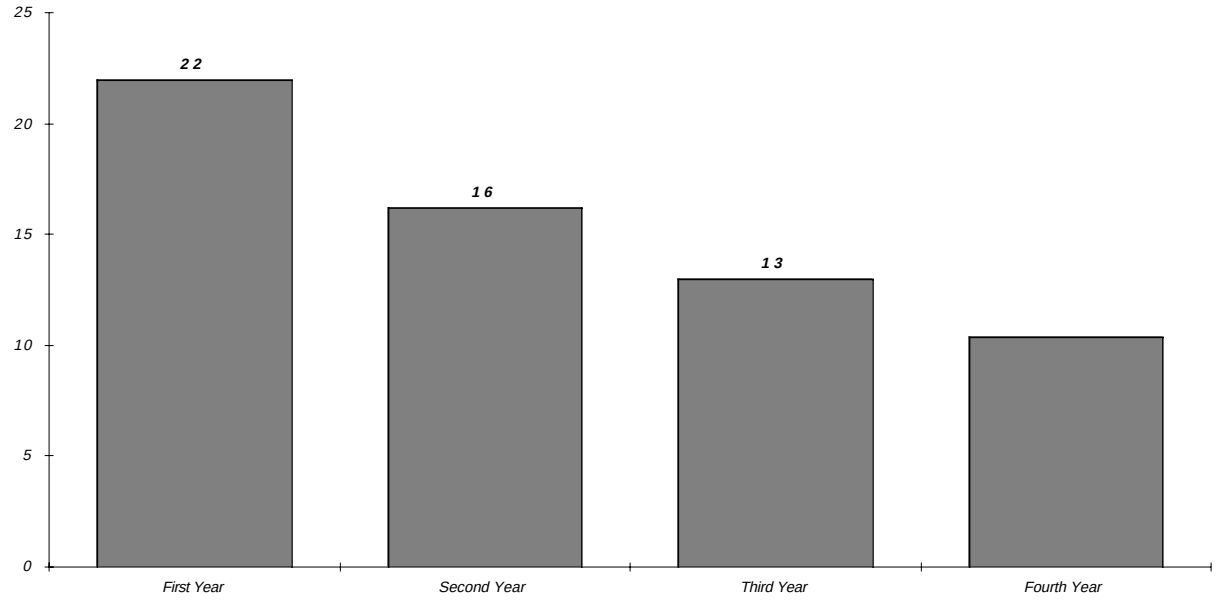
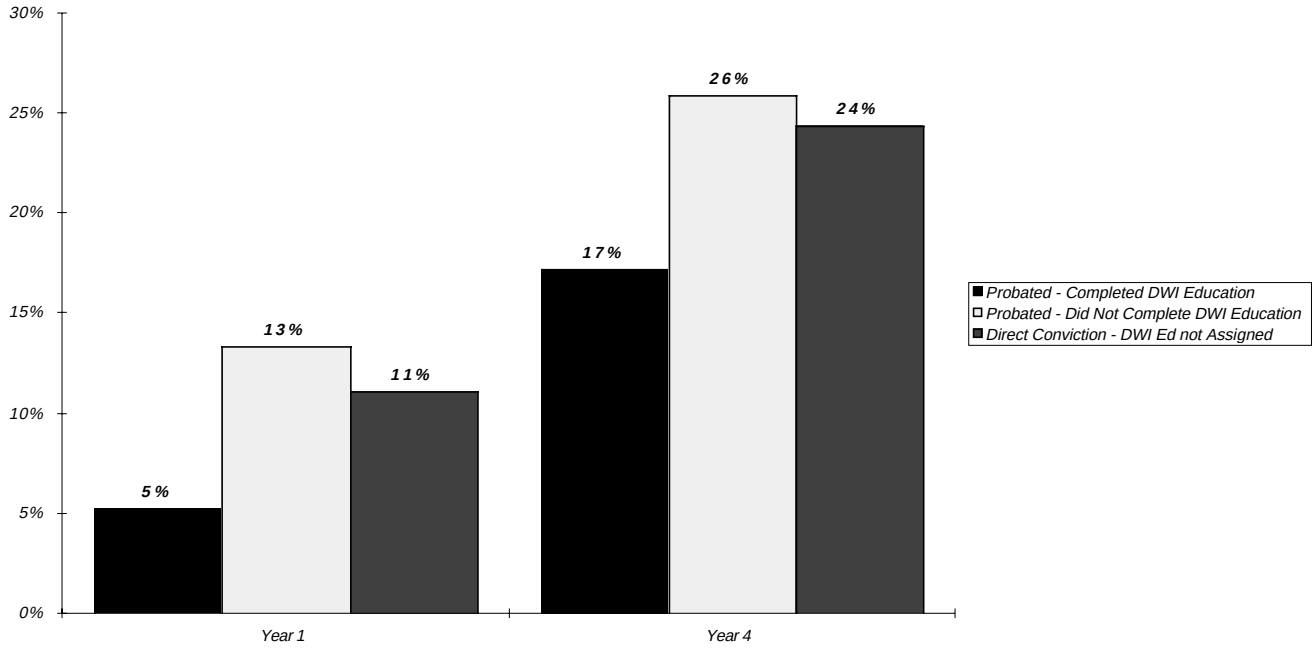


FIG. 2 CUMULATIVE RECIDIVISM MEASURED AT ONE AND FOUR YEARS AFTER INITIAL ARREST: TEXAS FIRST OFFENDERS, 1985-1988



• The DWI Education class is less effective in preventing recidivism among multiple offenders than among first offenders, indicating the need for specialized multiple offender programs.

• An increasing percentage of DWI offenders received direct conviction (and therefore no DWI education) rather than probation/ DWI education between 1985 and 1988. DWI Education class enrollments dropped an estimated 35 percent as a result of decreasing DWI arrests and increasing direct convictions.

Blood/Breath Test Refusals

• Between 1985 and 1988, both first and repeat offenders became more likely to refuse blood/breath tests (Figure 3).

• The probability of a blood/ breath test refusal increases as the number of past DWI offenses increases. For example, only 25 percent of 1988 first offenders refused the blood/breath test, compared to 42 percent of second offenders and 54 percent of offenders with three or more DWIs on their record.

• Those who refuse the blood/ breath test are more likely to be arrested again for DWI than those who consent to the test. Those who refuse the blood/breath test and escape conviction for DWI are more likely to be rearrested than those who refuse the test and get convicted.

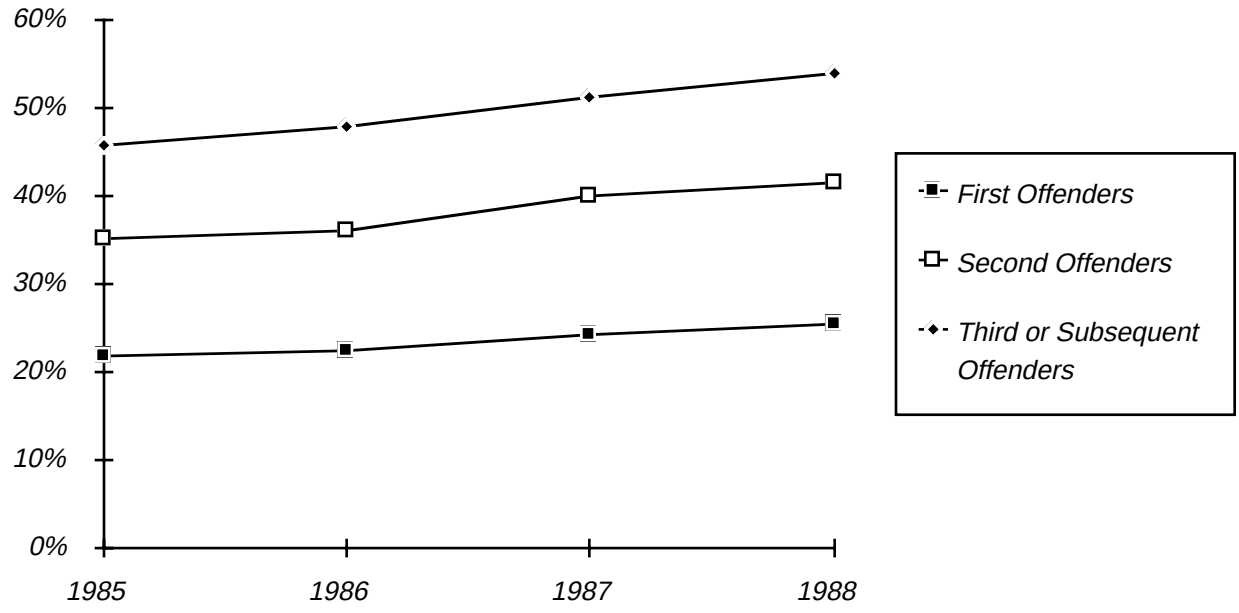
Demographic Correlates

• DWI offenders with three or more previous non-DWI moving violations are more likely to be rearrested for DWI than those with fewer or no such violations.

• Some demographic characteristics are more strongly associated with DWI recidivism than others. Males are more likely to be rearrested than females, and younger persons are more likely to be rearrested than older persons.

• There is marked regional variation with respect to arrests for DWI: San Antonio and surrounding counties have a DWI arrest rate of 111 per 10,000 adult population, compared to a rate of 64 per 10,000 in Dallas/Fort Worth and surrounding counties.

FIG. 3 PERCENT OF ARRESTEES WHO REFUSED THE BLOOD/BREATH TEST, BY NUMBER OF PREVIOUS CONVICTIONS: TEXAS, 1985-1988



III. BACKGROUND

Motor vehicle crashes are the leading cause of accidental death in Texas; about 50 percent of fatally injured drivers are legally impaired and 40 percent of traffic fatalities are alcohol-related.[4] In 1990, the estimated value of the property damaged in alcohol-related crashes was $189,000,000, with another $56,300,000 in economic productivity lost among those injured in alcohol-related accidents.[5] This document primarily describes patterns of repeat offense. Yet to understand repeat offense, one must start at the beginning. What does it take to get arrested for DWI and what happens after arrest?

Alcohol Consumption and Driving in Texas

A majority (67 percent) of Texans eighteen years of age and older drink alcohol at least once a year and almost all (95 percent) are licensed to operate motor vehicles.[6] In a 1988 survey of adults, over 50 percent of adult Texans recalled driving after drinking "too much" at least once in their lives.[7] The 1990 Texas School Survey reports that 29 percent of seniors admitted "driving after having a good bit to drink" in the past school year, and 8 percent reported doing so on four or more occasions.[8] These statistics suggest that many Texans, young and old, are at risk of being arrested and convicted of DWI.

The BAC Limit and Alcohol Consumption

Texas law specifies that a person with a measured blood alcohol concentration (BAC) of 0.10 percent or above and operating a motor vehicle is considered to be legally impaired. People with measured BACs below 0.10 percent have also been convicted of DWI, but such cases are not normally prosecuted because of the difficulty in securing conviction.

The amount of alcohol a person must consume before becoming legally impaired, and the length of time that person remains legally impaired, varies with a number of factors including body weight, gender and health, but it is fairly described as a large quantity within a short period of time (a BAC table relating number of drinks to weight and time appears in Appendix A). For example, a 190-pound man in good health must drink the equivalent of six 12-ounce beers within one hour to achieve a BAC of 0.10 percent, which is achieved about 20 minutes after drinking the last beer. The body metabolizes about one drink per hour and the BAC level should return to the 0.08-0.09 percent range within an hour after drinking the sixth beer. The hypothetical subject would need to continue drinking beyond six beers to maintain a BAC which would support conviction for DWI under normal circumstances.

While it is possible for someone to be apprehended the first time he or she drives with a BAC of 0.10 percent or above, this eventuality is unlikely. Conservatively estimated, a person drives an average of two hundred times at a 0.10 percent BAC, or one hundred times at a 0.15 percent BAC, before being arrested for DWI.[9] Moreover, many more people drive while intoxicated than get convicted for DWI. An estimated 20 percent of adult Americans drive legally intoxicated each year, but only 5 percent are ever convicted of DWI in their entire driving career.[10]

Implied Consent

Driving is a privilege rather than a right. When receiving a Texas driver's license, one implicitly agrees to submit to blood/breath alcohol concentration testing whenever requested by an authorized law enforcement officer. Refusing the test can result in a 90-day license suspension. The suspension is "administrative" in the sense that the action is taken by the Department of Public Safety rather than a judge in the context of a court of law.

Some attorneys discourage their clients from submitting to blood/breath testing because a BAC of 0.10 percent is by definition "impairment." When BAC is not in evidence, the prosecution must find other ways of demonstrating impairment beyond a reasonable doubt. For many, increased

chances of dismissal/acquittal may be well worth the inconvenience of a brief license suspension.

DWI and Texas Courts

Once arrested for DWI, Texans are likely to be convicted of the offense (Table 1). In all, 507,277 DWI cases were disposed in Texas county courts between October 1, 1984 and September 30, 1988. Of those, 80 percent resulted in convictions, 1 percent in acquittal, 18 percent in dismissal of charges, and 1 percent in deferred adjudication. Plea bargaining was used to settle almost four out of five DWI cases.

Sentencing for DWI: Direct Conviction and Probation

Texas judges have a great deal of latitude when imposing sentences for DWI. Texas law provides the following range of sentencing options for *direct conviction:*

Fines:
First Offense: $100-2,000
Second Offense: $300-2,000
Third Offense: $500-2,000

License Loss:
First Offense: 3-12 months
Second Or More: 6-24 months

Jail:
First Offense: 72 hours-2 years
Second Offense:15 days-2 years
Third Offense: 30 days - 2 years (or TDC, 60 days-5 years)

Judges have the option of sentencing offenders to up to two years of probation in lieu of direct conviction on the first offense. These probated offenders may avoid jail time and/or license suspension. However, they are required to pay a monthly fee for probation services and complete an approved DWI education course.

The Office of Court Administration does not provide detail on sentences given to DWI offenders. However, given the common practice of plea bargaining, it is likely that maximum penalties are rarely imposed. Also, because district and county courts handle numerous DWI cases, many jurisdictions may have evolved sentencing guide lines.

DWI Education: An Established Program

Article 42.12, Section 13 (h), of the Code of Criminal Procedure provides that probated DWI offenders must attend and complete a certified DWI Education program. Failure to complete such a program within six months results in a 180-day administrative license suspension. DWI offenders receiving direct conviction are not required to attend the course.

Currently, the DWI Education curriculum requires a minimum of 12 hours of classroom instruction. The program provides participants with information about the physiological and psychological effects of alcohol and other drugs on their driving abilities, and about chemical dependency. Also included are explanations of laws relating to impaired drivers, the meaning of the "implied consent" law, and discussions of penalties for subsequent offense. Probationers attending classes can discuss the attitudes underlying their impaired driving behavior, and are instructed as to how to change those attitudes to avoid future DWI behavior. The course

TABLE 1
COUNTY COURT DISPOSITIONS OF DWI ARRESTS:
FISCAL YEARS 1985 THROUGH 1988

Fiscal	Dispositions	Convictions	% Disp	Aquittals	% Disp	Dismissals	% Disp	Guilty Plea	% Disp
1985	149,649	111,071	(74.2%)	866	(0.6%)	34,464	(23.0%)	110,007	(73.5%)
1986	128,798	107,706	(83.6%)	960	(0.7%)	17,186	(13.3%)	106,470	(82.7%)
1987	120,844	98,273	(81.3%)	988	(0.8%)	18,793	(15.6%)	97,032	(80.3%)
1988	107,986	86,380	(80.0%)	1,058	(1.0%)	17,896	(16.6%)	85,220	(78.9%)
1985-1988	507,277	403,430	(79.5%)	3,872	(0.8%)	88,339	(17.4%)	398,729	(78.6%)

also identifies those drivers who have serious problems with alcohol and/or drug use, and refers these drivers for further evaluation.

Certified DWI Education programs have been in operation in Texas since 1978, and have been available in all parts of the State since 1982. The program is administered by the Texas Commission on Alcohol and Drug Abuse.

DWI Intervention: A New Initiative

Article 42.12, Section 13 (j), of the Code of Criminal Procedure establishes the DWI Intervention program as a statewide initiative specifically designed for repeat offenders. The 30-hour, curriculum-based program focuses on life issues rather than basic educational information. The goal of the program is to have the offender recognize his or her substance-related behavior, accept that there is a problem, and seek help through recovery services. The DWI Intervention program addresses lifestyle, values, self-esteem, positive thinking, irrational beliefs, responsibility, physiological/psychological effects of substance abuse, alcoholism and the chemical dependency process, effects of alcohol and other drugs on families, co-dependency, Alcoholics Anonymous, treatment options and 12-step self-help groups, stress and coping, relapse prevention, problem solving and action planning. Although this new program is in its beginning stages, TCADA has allocated funds to implement the DWI Intervention program throughout the state.

IV. DATA AND METHODS

DWIRTS

The DWI Recidivism Tracking System (DWIRTS) is an automated driving record interpretation system designed to summarize information about DWIs from computerized Texas driving records. DWIRTS also collects information about moving violations, accidents, and administrative actions. Administrative actions include license suspensions and reinstatements, revocations, and blood/breath test refusals. DWIRTS includes demographic information about individual drivers such as gender, age, race and ZIP code.

DWIRTS mimics the decision-making process of personnel trained in driver's record interpretation. Multiple passes are made on each record to develop an event history. For example, a first pass might ascertain that driver X ran a stop sign on 3/19/87, had a DWI-related accident on 6/2/87, and was arrested for another DWI on 12/24/88. On subsequent passes, DWIRTS adds additional detail, such as refusing a blood/breath test or receiving direction conviction rather than probation. DWIRTS continues processing until all available information about each DWI is collected and organized in a way that allows statistical summary. For purposes of this study, relevant detail includes the date on which the DWI occurred, the type of conviction (direct or probated), whether or not DWI Education was assigned, whether or not DWI Education was completed, and whether the blood/breath test was accepted or refused. DWIRTS also logs each DWI as the first, second, or subsequent appearing in the record. Similar running totals are kept on moving violations.

Texas Driving Records

The Texas Department of Public Safety maintains active driving records on more than eleven million Texans. The data change daily as notices of citations are received, outdated information is filed to microfilm, and administrative actions are recorded. At the request of TCADA, DPS provided computer tapes containing the driving records of all individuals with potential DWI-related activity on file. The tapes showed that approximately 526,000 Texas driving records indicated potential DWI-related activity: 447,000 drivers had been convicted of DWI, refused a blood/breath test, and/or received a DWI-related license suspension, and an additional 79,000 drivers had notes suggesting DWI (such as conviction for "failure to stay in lane" or "negligent collision with a parked vehicle") but no actual convictions for DWI or DWI-related administrative actions.

After evaluation of these records and in consultation with DPS driving record experts, the following operational definition of DWI was adopted: *A DWI is an event which results in conviction for DWI or a DWI-related administrative action.* Thus, a conviction for "failure to stay in lane" coupled with a blood/breath test refusal is treated as a DWI for the purposes of this study. The study sample was further restricted to only those records containing a DWI dating between calendar years 1985 and 1988. A total of 326,000 drivers logged a total of 384,600 DWI convictions during this time period.

Completeness and Accuracy

One way to assess the validity of data used in this report is to audit official reports of DWI countermeasures activity in Texas for calendar 1985 through 1988 through the process of arrest, conviction, and finally to DWIRTS-interpreted driving records.

According to Uniform Crime Reports, a total of 471,261 arrests for DWI were made in Texas between January 1, 1985, and December 31, 1988. Thus, one would expect Texas county courts to dispose approximately this number of DWI-related causes originating from arrests in these years. Because DWI arrests are normally not adjudicated for several months and Office of Court Administration reports cover fiscal rather than calendar years, one cannot precisely ascertain how many causes originating from 1985 through 1988 arrests were actually adjudicated. However, assuming it takes an average of three months to adjudicate a DWI, one would expect

that county courts actually adjudicated a total of 468,280 cases arising from 1985 through 1988 arrests, and convicted a total of 386,524.[11] The number of convictions actually detected by DWIRTS was 384,596, which is a difference of only 0.5 percent.

This audit suggests that the DWIRTS system produces almost exactly the number of DWIs expected to be on the driving record system, and that DWIRTS-based estimates of recidivism do not significantly under- or over-estimate the magnitude of the recidivism problem in Texas. Although there may be occasional reporting problems in the DWI countermeasures system, these problems are likely localized and do not affect the integrity of the record-keeping system as a whole.

Technical Information

The DWIRTS analytical system is written in SAS (version 6.3). Initial processing was done on an IBM 3081 computer running in CMS. Driving record extracts were downloaded to a 386/25 microcomputer for statistical summary using SAS (version 6.4) for microcomputers.

Survival analysis was used to summarize DWI recidivism experience. Offenders were followed beginning the day of initial arrest and tracked until either arrested again or to censor. Censor dates were computed on the basis of October 1, 1989. Those dying or moving from the state prior to this date were censored accordingly. Survival analyses were constructed using the product-limit method as implemented in SAS Lifetest procedure. Cumulative distribution functions of failure time are computed at the beginning of the interval. Hazard rates are computed at the midpoint of the interval. All differences identified herein are statistically significant.

V. RESULTS

General Trends in DWI Offenses

According to UCR records, DWI arrests in Texas decreased from about 131,000 in 1985 to 103,000 in 1988, a decline of 21 percent. Significantly, there were also declines in per-capita alcohol consumption through that same period (Figure 4). In 1985, Texans consumed an average 3 gallons of ethanol (pure alcohol) per person age 13 or older.[12] By 1988, Texans consumed only 2.4 gallons per person 13 and over, a decrease of 19 percent. Thus, alcohol consumption patterns may be partially responsible for the observed decline in DWI arrests rather than changing law enforcement priorities.

DWI First Offenders and Recidivists

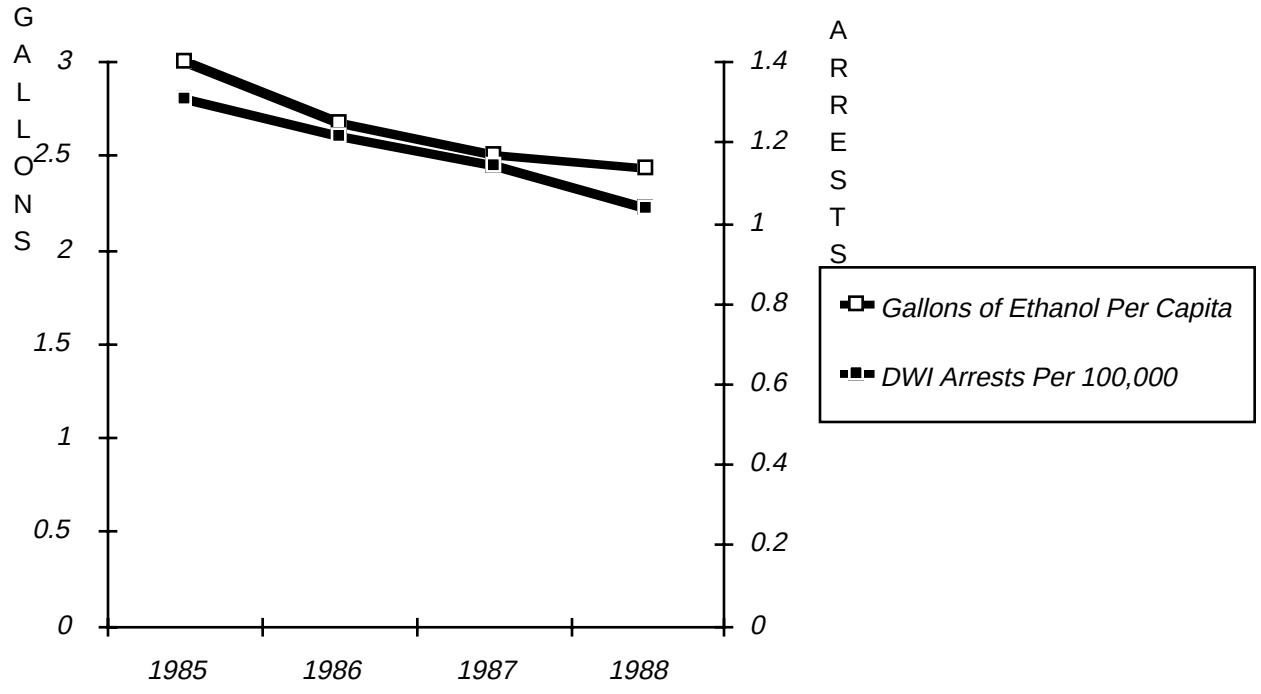
The arrest patterns of first and repeat DWI offenders pinpoint the nature of the alcohol consumption/DWI arrest relationship (Figure 5). Virtually all declines in DWI arrests were a result of fewer first offenders. Arrests of first time offenders decreased from 80,000 in 1985 to only 53,000 in 1988, whereas arrests of repeat offenders remained constant in the 30,000 to 33,000 range.

An increasing percentage of DWI countermeasures work load is being invested in repeat offenders. In 1985, 29 percent of Texans arrested for DWI were repeat offenders. By 1988, that figure had grown to 36 percent. This suggests that future improvements in the efficiency of the Texas DWI countermeasures system may require implementation of programs to reduce recidivism among multiple offenders.

Measuring Recidivism

The growing significance of the DWI recidivism problem underscores the need for precise measurements of the phenomena. Survival analysis is useful for summarizing the recidivism of large groups of individuals. Shown in Figure 6 is cumulative recidivism among 261,952 individuals first arrested for DWI between 1985 though 1988. The data is taken from DWIRTS-processed driving records and DWIs are defined in

FIG. 4 ALCOHOL CONSUMPTION (GALLONS PER TEXAS ADULT 13 AND OVER) AND DWI ARRESTS IN TEXAS, 1985 - 1988



NUMBER OF FIRST AND REPEAT DWI OFFENDERS: TEXAS, 1985-1988

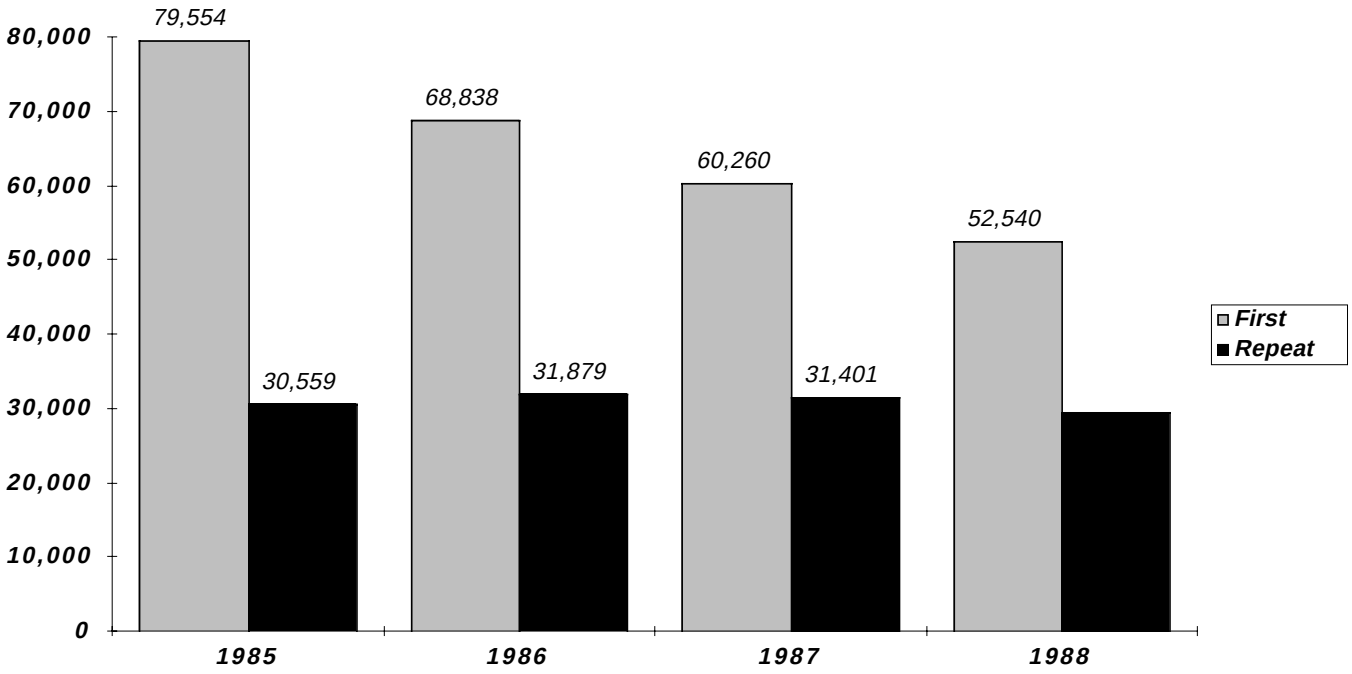
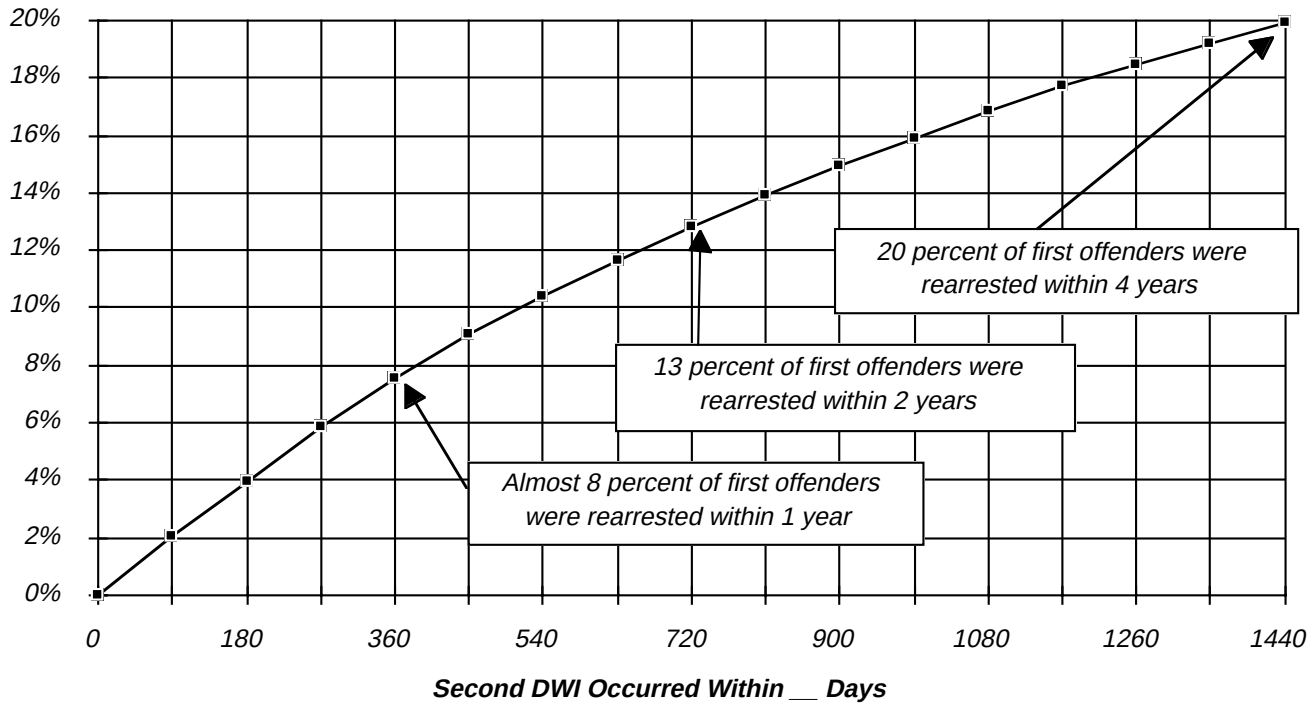


FIG. 6 CUMULATIVE DWI RECIDIVISM: TEXAS FIRST OFFENDERS, 1985-1988



terms of convictions and DWI-related administrative actions as previously described. Days from initial arrest to rearrest are present along the bottom of the graph and the percentage rearrested by the solid line. Through time, an increasing cumulative percentage of first offenders was rearrested; 8 percent within one year, 13 percent within two years, and 20 percent within four years of initial arrest.

Offenders were most likely to be rearrested within a year of their initial arrest, which makes that first year the most critical one for DWI recidivism prevention. Shown in Figure 7 is daily risk of rearrest for first offenders beginning 45 days after initial arrest.[13] On day 45, daily risk of rearrest was .00023. This means that for every 100,000 first offenders, 23 were rearrested exactly 45 days after initial arrest. Beginning on day 315 (10.5 months after initial arrest), daily risk of rearrest declines rapidly. Therefore, if offenders have not been rearrested within the first 10.5 months following arrest, it rapidly becomes less likely that they will recidivate. The decline in daily arrest rates slows after day 495, but continues to decrease through the remainder of the follow-up period.

Recidivism by Number of Prior DWIs

The more times a person has been arrested for DWI in the past, the more likely it is that he or she will be rearrested in the future. Compared in Figure 8 is cumulative recidivism among three groups of offenders: 261,952 arrested for the first time, 80,193 arrested for the second time, and 26,643 arrested for the third or subsequent time in 1985 through 1988. Least likely to be arrested again within four years were first offenders (20 percent), most likely to be rearrested were third/subsequent offenders (34 percent), with second offenders (28 percent) in between the two groups. Thus, intervention early in DWI careers has a potential to pay dividends well into the future. For each 100 second offenses prevented, one also prevents an estimated 34 third and subsequent offenses in future years.

FIG. 7 CHANGING DAILY RISK OF RECIDIVISM THROUGH TIME: TEXAS FIRST OFFENDERS, 1985-1988

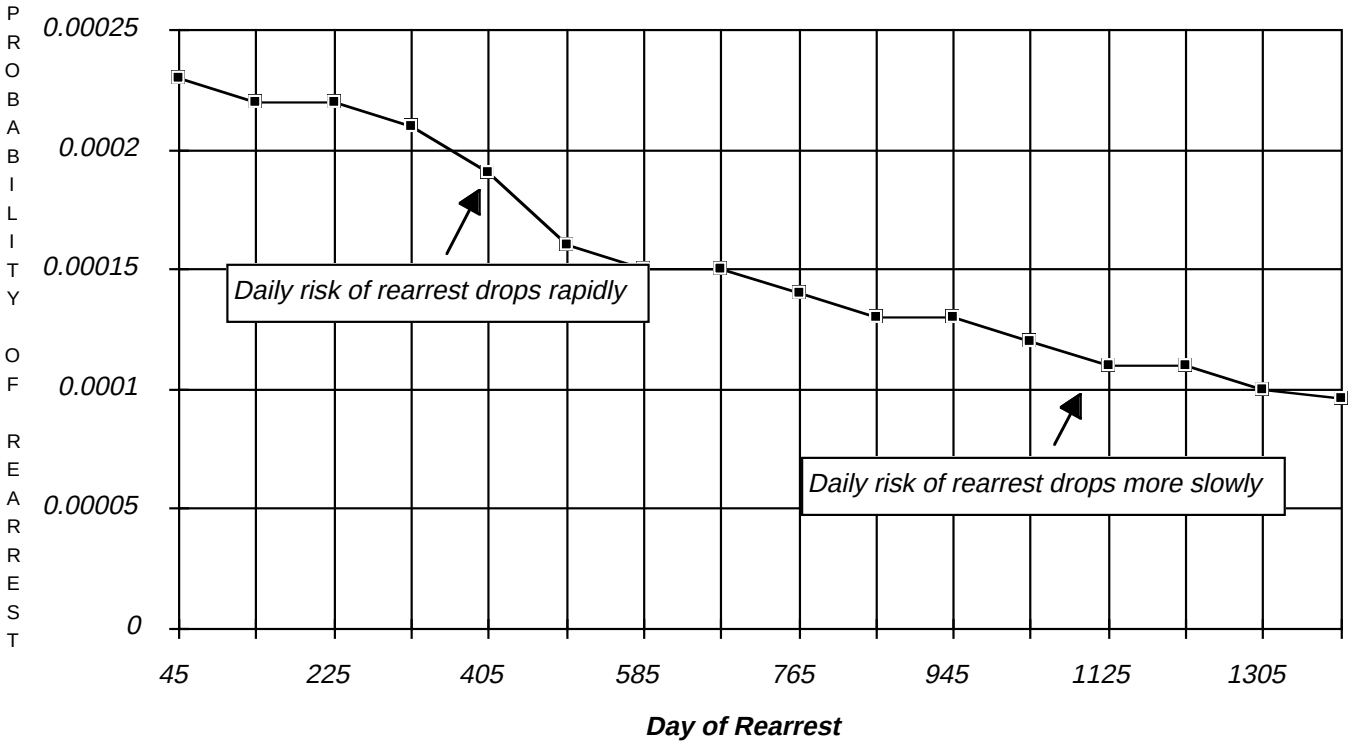
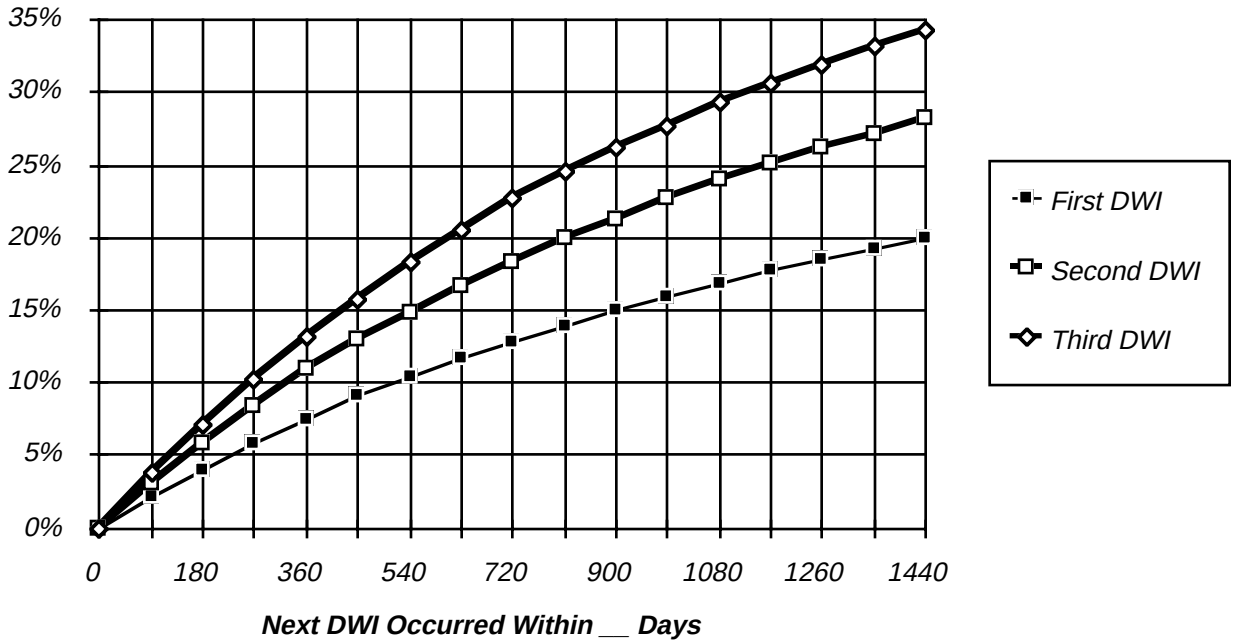


FIG. 8 CUMULATIVE DWI RECIDIVISM BY NUMBER OF PRIOR CONVICTIONS: TEXAS, 1985-1988



Sentencing Options, DWI Education, and Recidivism

DWI offenders receiving probation/education are less likely to recidivate within a year of their arrest than DWI offenders receiving direct conviction. Compared in Figure 9 is daily risk of recidivism among two groups of first offenders arrested between 1985 and 1988 (64,047 who received direct conviction and 197,145 who were assigned to probation and the DWI Education class). The second group includes probated offenders who did not complete their required DWI Education class. At 45 days after initial arrest, those assigned direct conviction for DWI were about three times more likely to be rearrested than those assigned probation and education. By 585 days (about 18.5 months) after initial arrest, the gap between the two groups significantly narrowed and remained small through the remainder of the follow-up.

These recidivism differences could be due primarily to differences in treatment (e.g., direct conviction versus probation/education) or due to differences between the groups themselves (e.g., those more likely to recidivate received direct conviction). Because this study is not based on random assignment to experimental groups, this question cannot be rigorously answered. However, the results do have face-validity indicating that the different recidivism rates are attributable to differences in treatment. The normal probation length for a DWI conviction is 1 to 2 years, which corresponds to the 1.5 years during which probated offenders have significantly lower daily recidivism. After 1.5 years daily rearrest rates of both groups are quite similar, although they remain slightly higher among offenders receiving direct conviction. This could indicate small underlying differences between groups, but still would not account for the large differences observed during the initial 1.5 years.

Effect of DWI Education on Recidivism

Among first offenders probated and assigned to the DWI Education class, those who completed the course (167,394) were less likely to be rearrested than those who did not complete the course (29,751; see Figure 10). For example, 315 days (10.5 months) after first arrest, class completers had a daily rearrest rate of only 16

FIG. 9 RISK OF REARREST FOR SECOND DWI, PROBATION/EDUCATION VERSUS DIRECT CONVICTION: TEXAS, 1985-1988

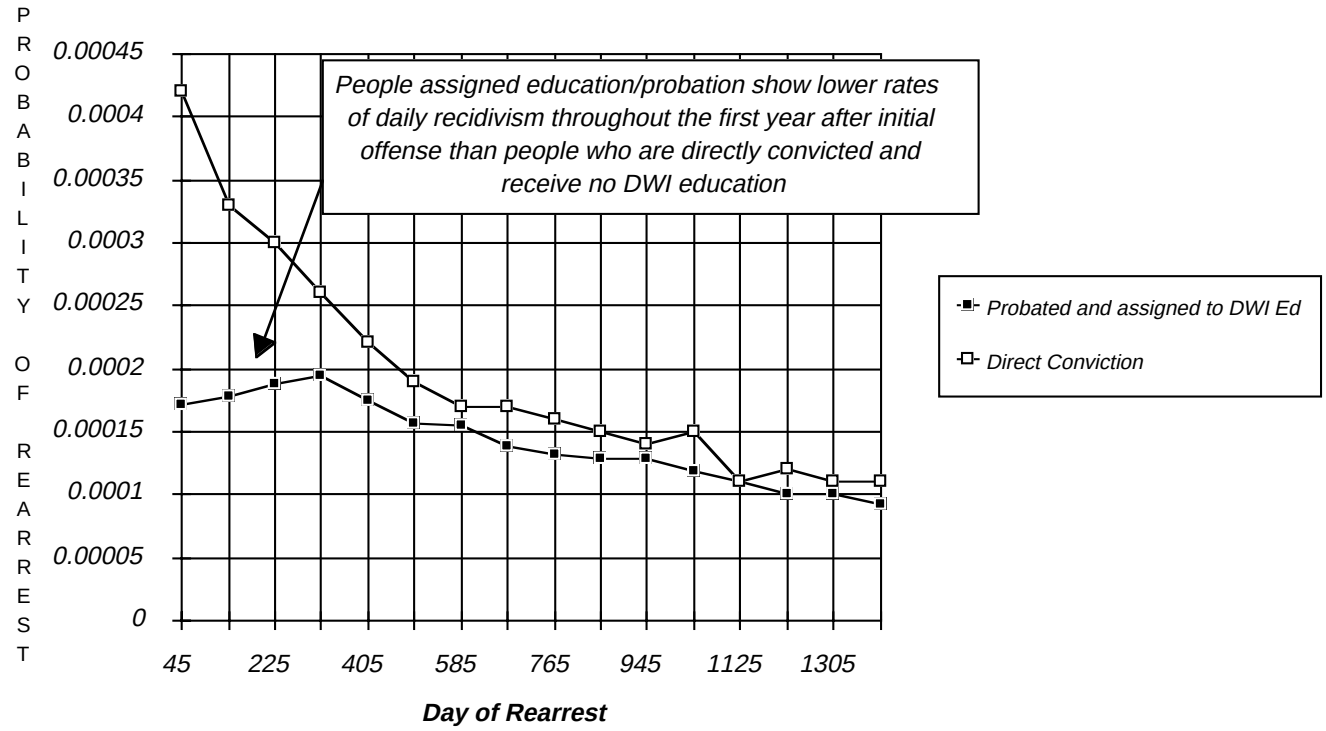
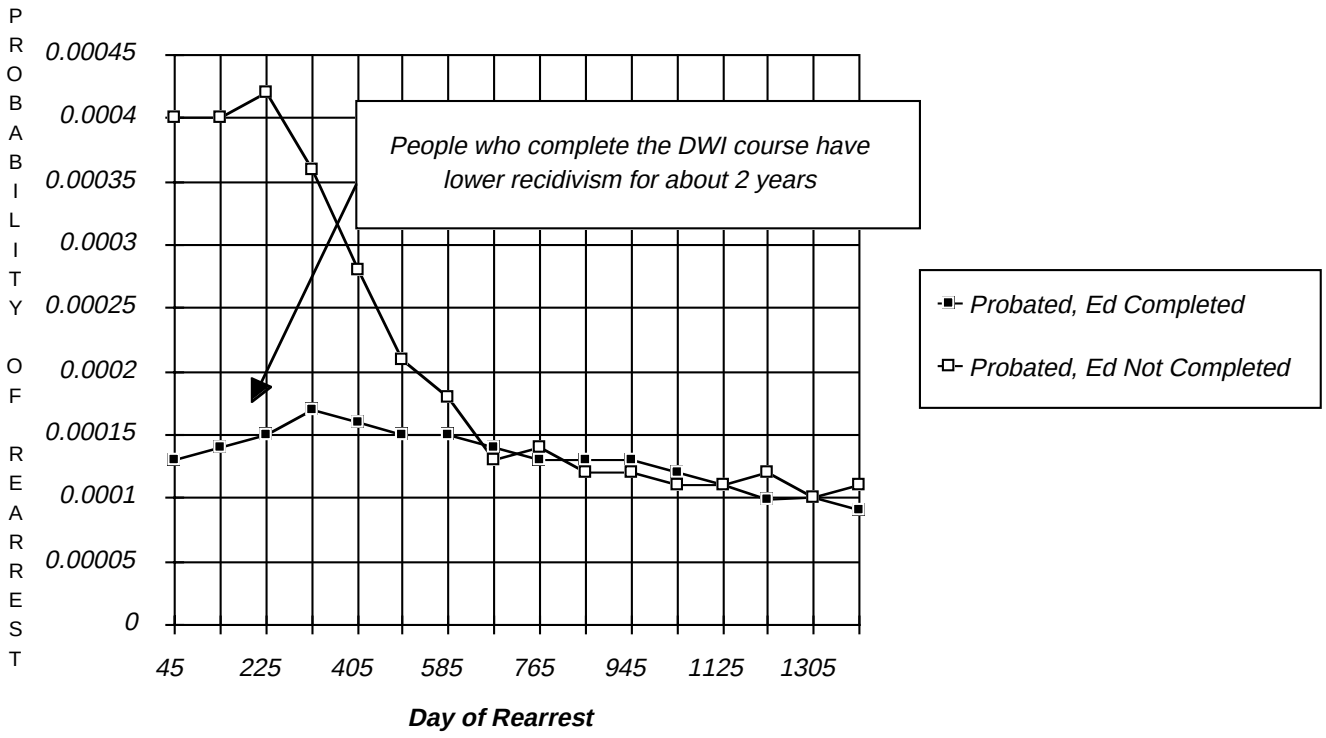


FIG. 10 RISK OF REARREST FOR SECOND DWI BY EDUCATION COMPLETION STATUS: TEXAS, 1985-1988



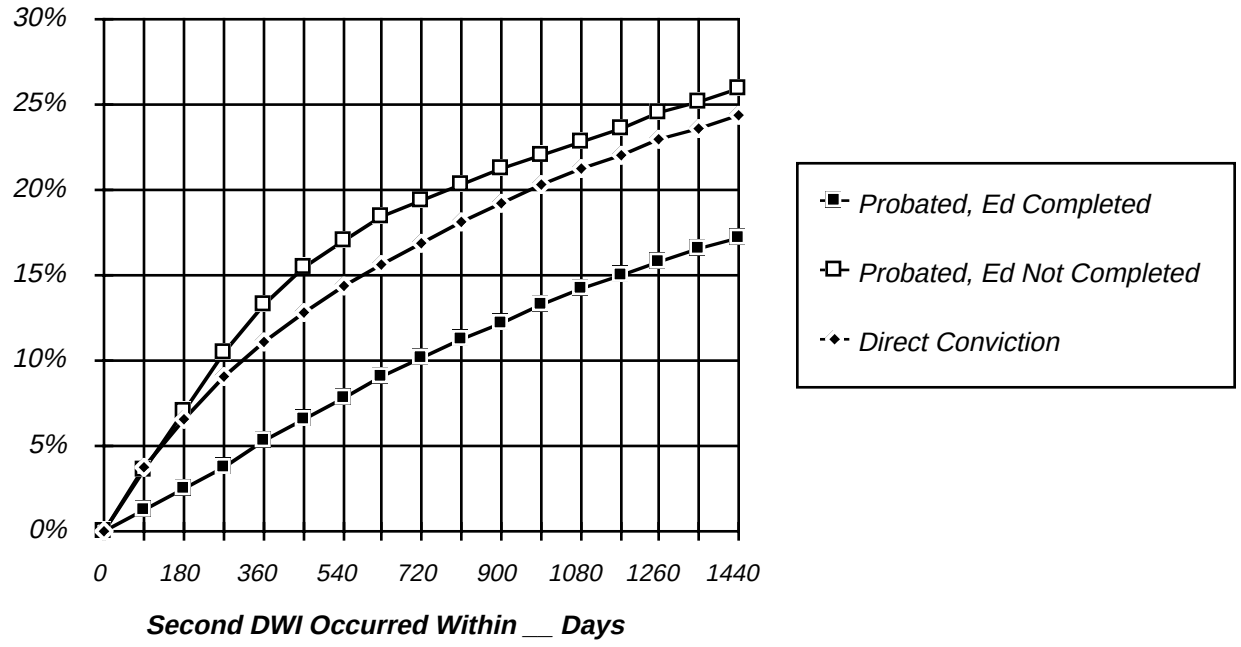
per 100,000 offenders as compared to 36 per 100,000 offenders not completing the course. Two years after initial arrest, class completers and non-completers had virtually identical daily rearrest rates, which remained almost congruent through the remainder of follow-up.

Completion of an assigned education course is clearly associated with lower recidivism during the two years following initial arrest. As stated above, this difference could be attributable to the course completion or differences among the groups themselves. However, daily rearrest rates are roughly equivalent beginning two years after initial offense which suggests underlying similarity among groups with respect to recidivism; thus, the DWI Education class could have reduced recidivism among course completers.

Only 5 percent of probated first offenders who completed the DWI Education class recidivated within one year (360 days), as compared to 11 percent of those who were assigned direct conviction, and 13 percent of probated offenders not completing the class (Figure 11). In other words, first offenders completing the DWI Education class were less than one-half as likely as those not completing the course to recidivate within one year. Four-year (1440 days) cumulative recidivism was 17 percent for probated education completers, 24 percent for direct convictees, and 26 percent for probated non-completers.

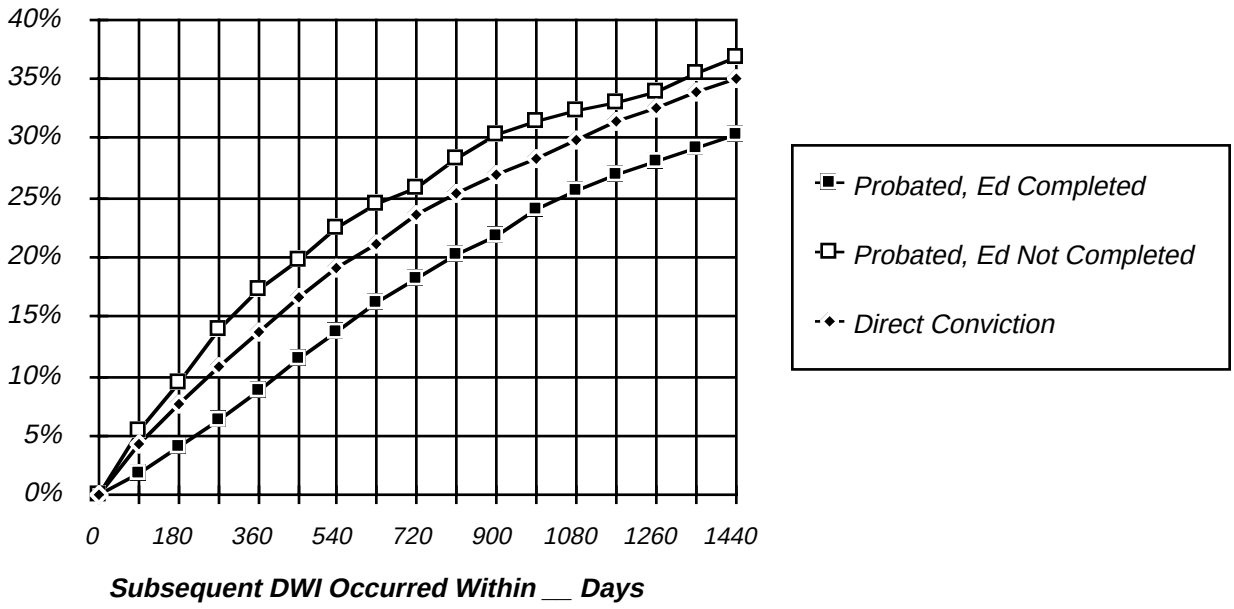
Even multiple offenders with two or more previous convictions who completed the DWI Education class had lower recidivism rates than multiple offenders who did not complete the DWI Education course. Compared in Figure 12 is cumulative recidivism among third and subsequent offenders, 4,531 who received probation and completed DWI education, 20,548 who received direct conviction, and 1,564 who were probated but did not complete DWI education. Four-year cumulative recidivism was 30 percent among education course completers, as compared to 35 percent and 36 percent among the two groups of non-completers. As would be expected, these cumulative recidivism rates are much higher than those observed among first offenders. This suggests that the more intensive DWI Intervention program might be more suitable for this group. This program did not become available until late 1990 and has not yet been implemented in all parts of the state; therefore, follow-up data on the DWI Intervention program is not yet available.

FIG. 11 CUMULATIVE DWI RECIDIVISM BY EDUCATION CLASS COMPLETION STATUS: TEXAS FIRST OFFENDERS, 1985-1988



Because offenders assigned to

FIG. 12 CUMULATIVE DWI RECIDIVISM BY EDUCATION CLASS COMPLETION STATUS: TEXAS THIRD AND SUBSEQUENT OFFENDERS,1985-1988



DWI education are clearly less likely to recidivate than those given direct conviction, the declining rates of assignment to the probation/DWI education sanction are a matter for concern (Figure 13). From calendar 1985 through 1988, the percentage of DWI offenders receiving the probation/ DWI education sanction decreased from 78 percent to 74 percent among first offenders, 39 percent to 34 percent among second offenders, and 23 percent to 18 percent among third and subsequent offenders. The downward trend of the probation/DWI education sanction was emphasized by overall declines in DWI arrests, particularly among the first offenders who are most likely to be assigned this sanction. 74,068 DWI offenders arrested in 1985 were subsequently assigned to the DWI Education class; 48,056 offenders arrested in 1988 were assigned. The DWI Education class completion rates remained constant throughout the period: of the 197,145 first offenders assigned to the class, 167,394 (85 percent) successfully completed the assigned course.

Blood/Breath Test Refusals

Failure to submit to a blood/breath test can incur a 90-day driver's license suspension. In spite of this penalty, Texas drivers became increasingly reluctant to submit to the blood/breath test between 1985 and 1988 (Figure 14). While driving records do not contain direct information regarding the underlying causes of this trend, some possibilities might include the following: B/BTR (blood/breath test refusal) license suspensions can be appealed to Justice of the Peace court where they are sometimes probated; many with a suspended driver's license can get an occupational license which allows them to drive to and from work; even when a license remains fully suspended, chances of getting apprehended are minimal; even if apprehended, the violation results only in a fine; and chances of dismissal or acquittal of the DWI charge are better if BAC evidence derived from the blood/breath test is not available to the prosecution.

Those who refuse blood/breath tests are more likely to be arrested again for DWI than those who

FIG. 13 PERCENT OF OFFENDERS ASSIGNED DWI EDUCATION BY NUMBER OF PREVIOUS DWI CONVICTIONS: TEXAS, 1985-1988

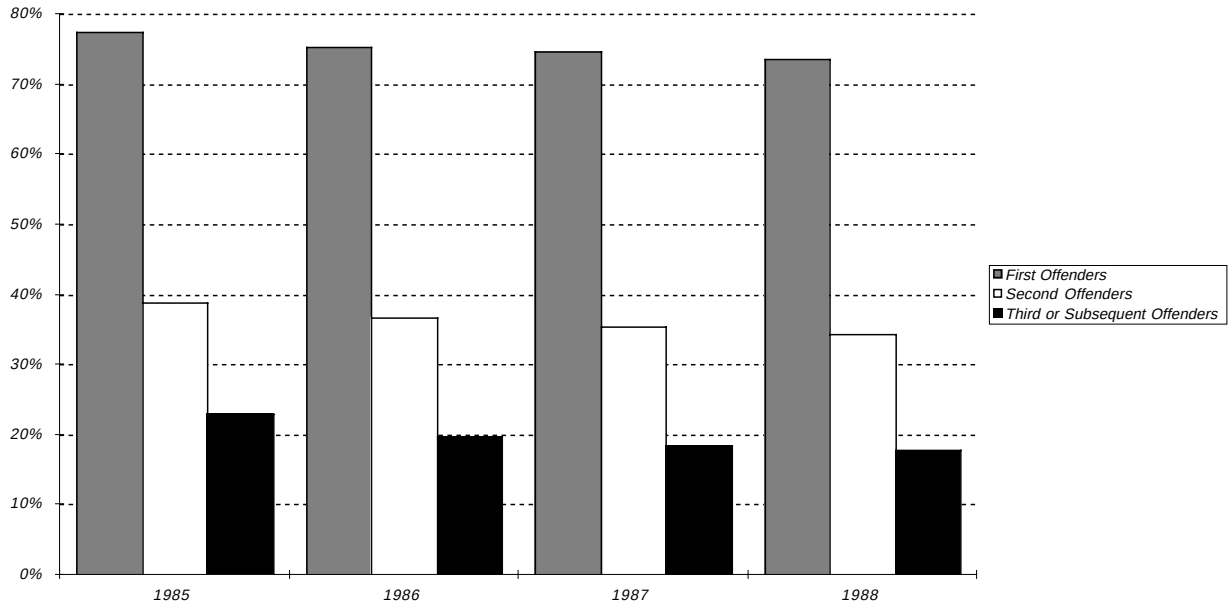
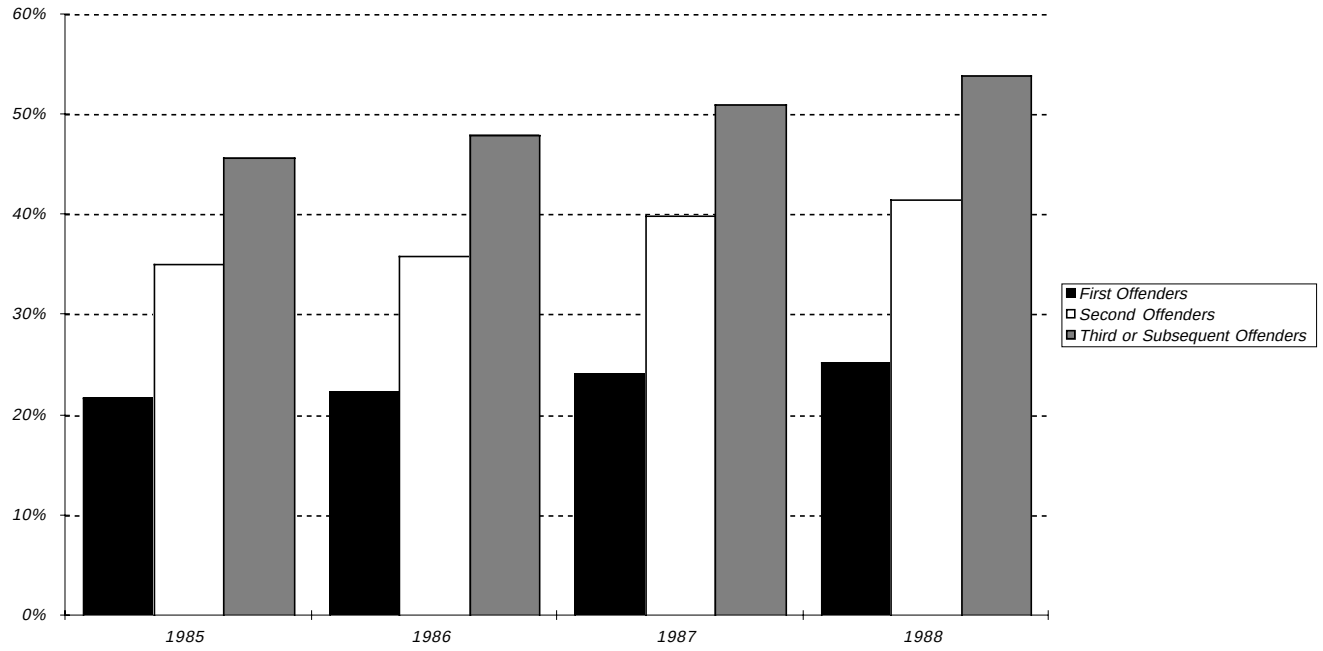


FIG. 14 PERCENT OF BLOOD/BREATH TEST REFUSALS BY NUMBER OF PREVIOUS DWI CONVICTIONS: TEXAS, 1985-1988



submit to the test. Among refusers, those who were not subsequently convicted were more likely to be rearrested than those who were convicted. Illustrated in Figure 15 is cumulative recidivism of three groups of first offenders. Of blood/breath test refusers not convicted of DWI, 26 percent were rearrested within four years; comparable rates were 23 percent for convicted refusers and 19 percent among those who submitted to the test and were convicted. This suggests that the increase in blood/breath test refusals could ultimately result in higher DWI recidivism in Texas.

Negligent Motor Vehicle Operation and DWI Recidivism

One measure of a driver's propensity for "negligent operation" is the number of citations on the driver's record. Because tickets for non-DWI moving violations are deleted from the driving record after five years, this analysis was restricted to drivers who received their first DWI in calendar 1987. All such drivers have roughly equivalent opportunity for tickets preceding their DWI to appear on their driving record. Of the 1987 first offenders, 27,348 had no moving violations, 21,513 had one or two moving violations and 9,705 had three or more moving violations preceding their DWI (Figure 16). The number of previous violations is associated with recidivism: of those with three or more pre-DWI moving violations, 17 percent were rearrested for DWI within 900 days (2.5 years), compared to 12 percent of drivers with no previous violation.

Age, Gender, and DWI Recidivism

Younger drivers are much more likely than older drivers to be arrested for a first DWI (Figure 17). Each year, about 1 percent of drivers 18 to 25 are arrested for their first DWI, a rate significantly higher than any other age group. The significant difference in arrest rates is to be expected because people 18 to 25 consume, on average, more alcohol than persons younger or older. However, age differences among DWI recidivists are considerably smaller (Figure 18); first offenders under the

FIG. 15 CUMULATIVE DWI RECIDIVISM BY BLOOD/BREATH TEST AND CONVICTION STATUS: TEXAS, 1985-1988

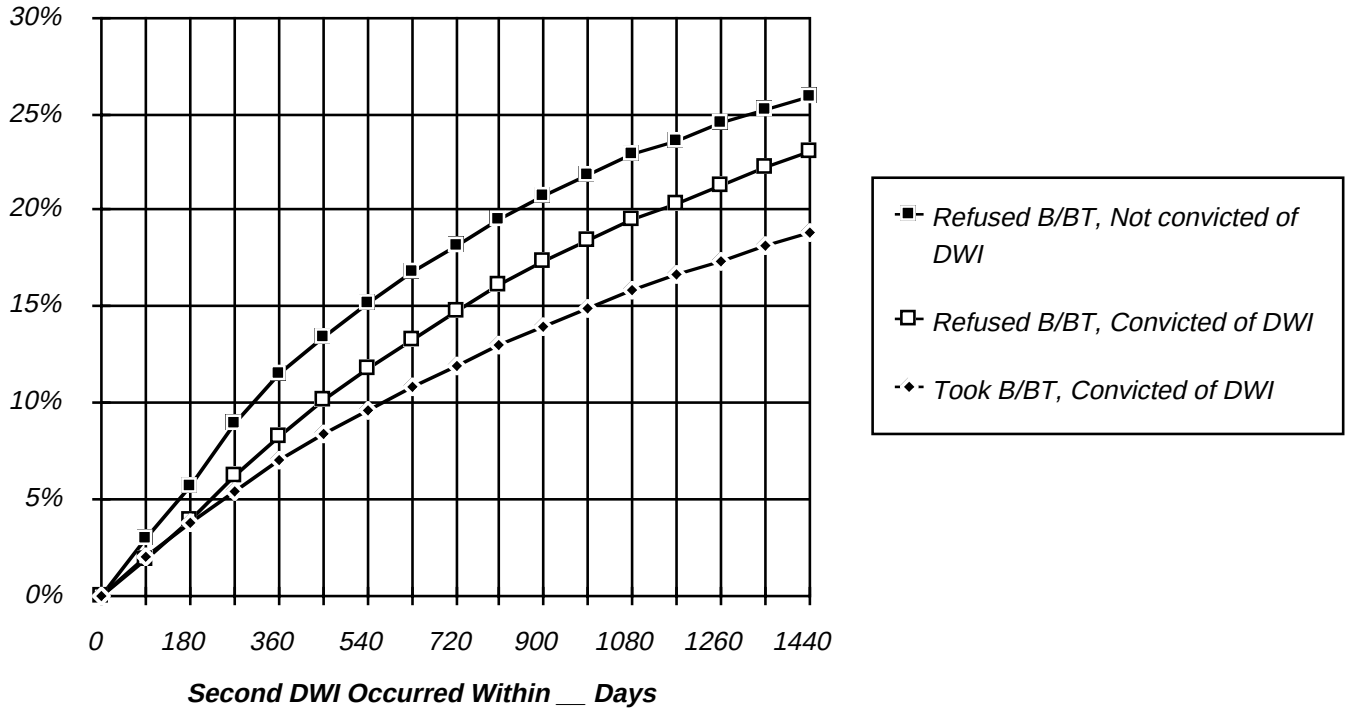


FIG. 16 CUMULATIVE DWI RECIDIVISM BY NUMBER OF PREVIOUS MOVING VIOLATIONS: TEXAS, 1985-1988

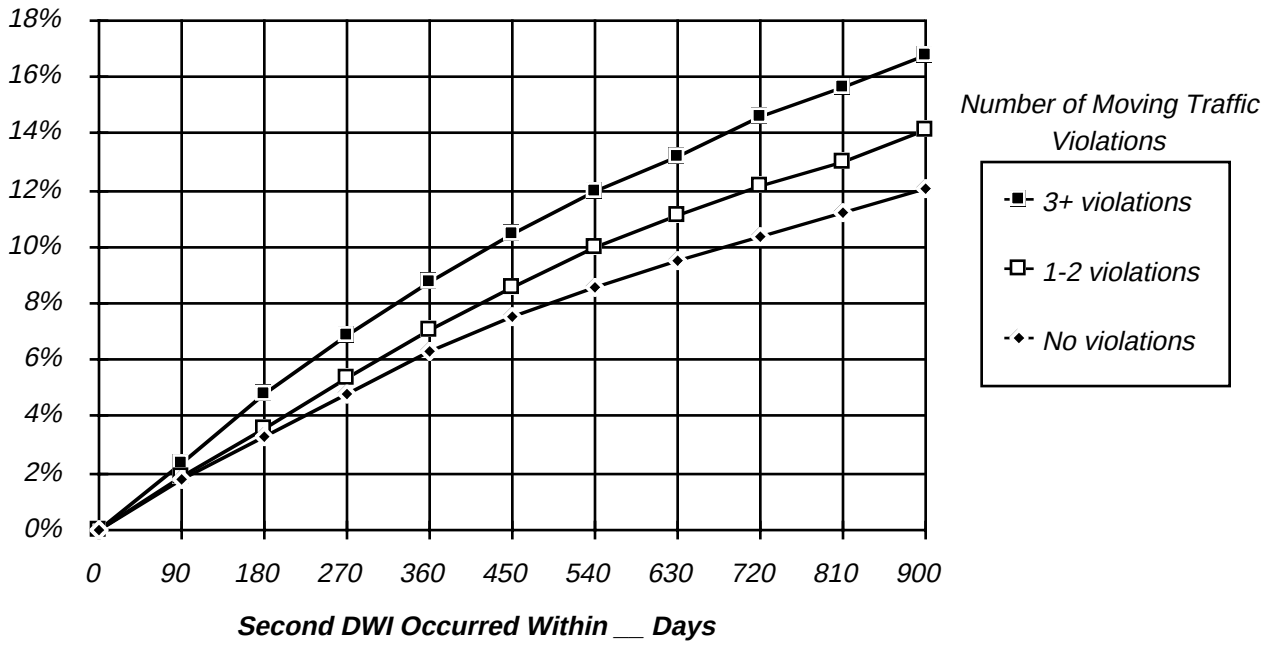
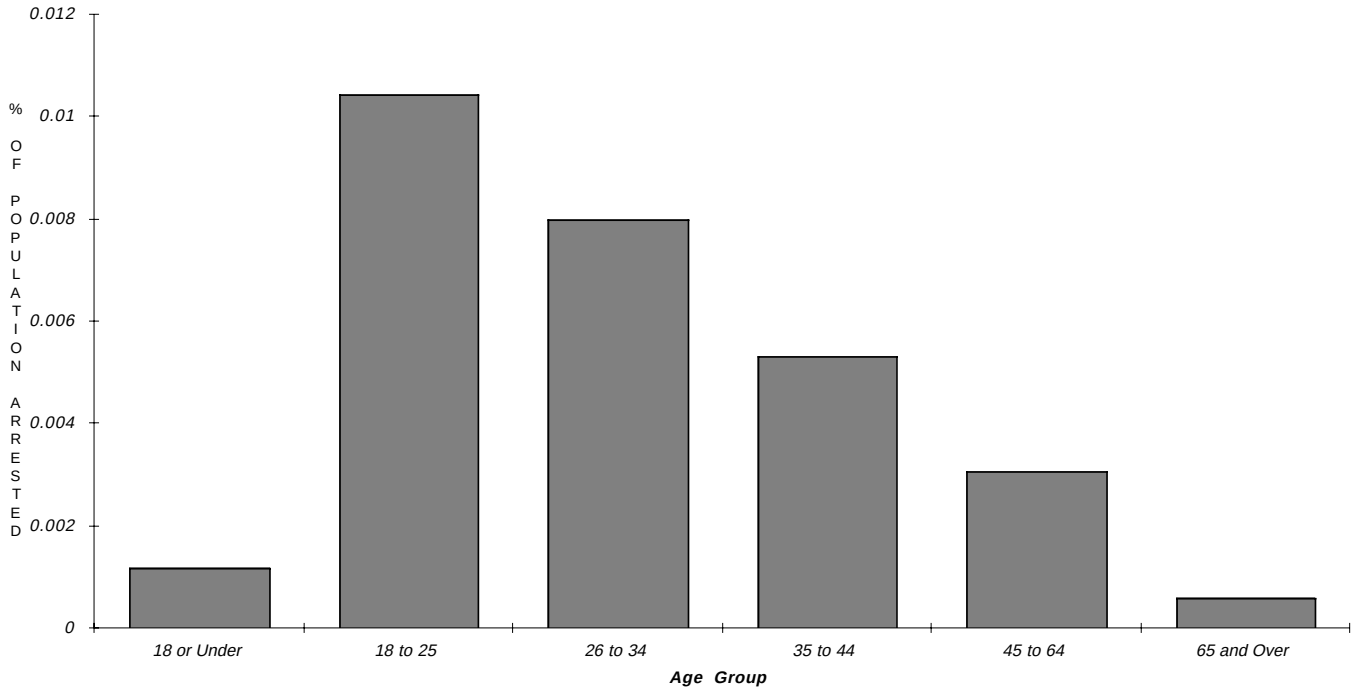


FIG. 17 AGE AT FIRST DWI ARREST AS PERCENTAGE OF POPULATION: TEXAS, 1985-1988



age of 45 have remarkably similar patterns of rearrest.

Males are more likely than females to be arrested for DWI. Eighty-eight percent of first offenders arrested during the study period were male. Male first offenders are also more likely to recidivate than female first offenders (Figure 19). However, as with age differences, gender-based differences in recidivism are not as pronounced as difference among first offenders. While males are approximately nine times more likely to get their first DWI than females, they are only about one-third more likely to get rearrested within four years.

Regional Differences in DWIs

There are marked regional differences in rates of first offense and recidivism for DWI in Texas. Shown in Figure 20 are eight regional groups of counties corresponding to the eight survey regions in the *1988 Survey of Substance Abuse among Texas Adults*. Detailed information about alcohol consumption and alcohol-related problems, the component counties of each region, and region-specific populations are available for each of these regions in Appendix B.

The residence ZIP code was used to identify each driver's county of residence. Shown in Table 2 are numbers of DWIs between 1985 and 1988, broken out by region. Also shown are DWI arrest rates per 10,000 adult population for the region for the period 1985 to 1988. The measured crude DWI arrest rate for Texas as a whole for the 1985 to 1988 study period was 78.56 per 10,000 adult population, with the highest regional rates observed in San Antonio and surrounding counties (111 per 10,000) and the lowest rates noted in the Dallas/Fort Worth area (64 per 10,000).

The causes of the variation between regions is unknown. There is considerable local variation in DWI enforcement practices, adjudication procedures, penalties

FIG. 18 CUMULATIVE DWI RECIDIVISM BY AGE GROUP: TEXAS, 1985-1988

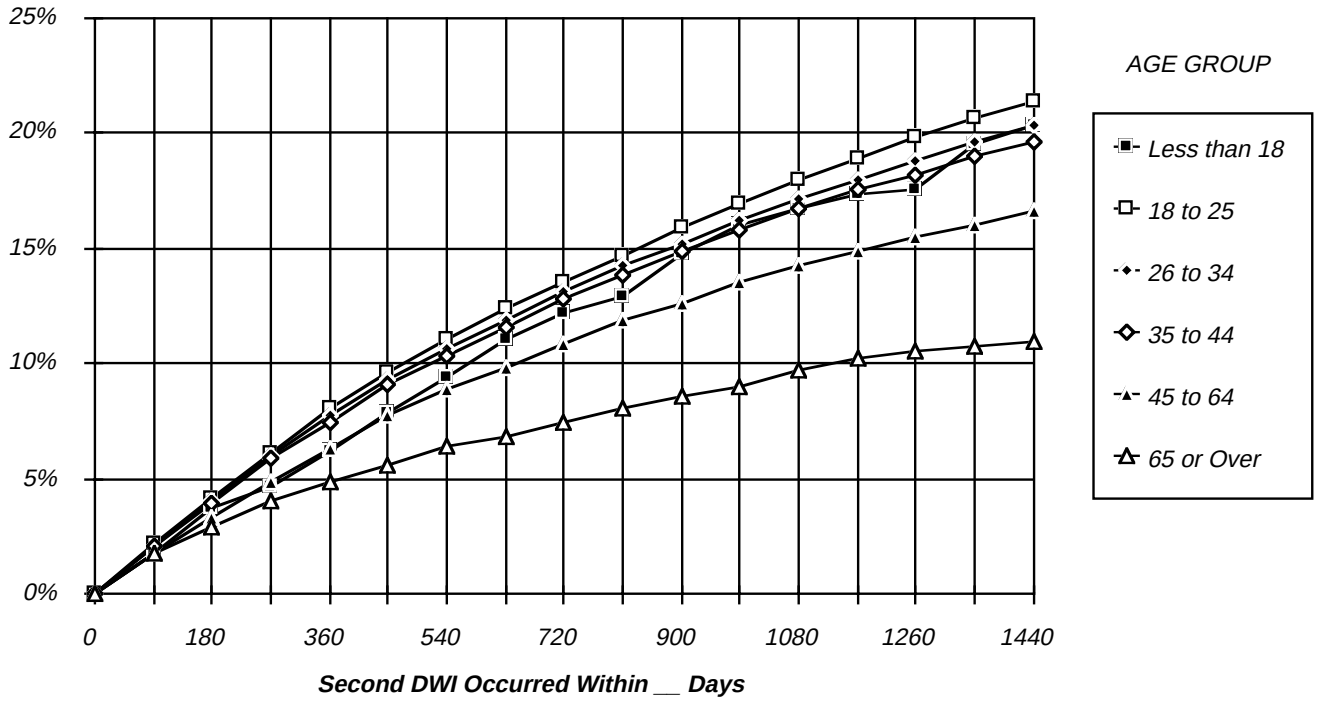
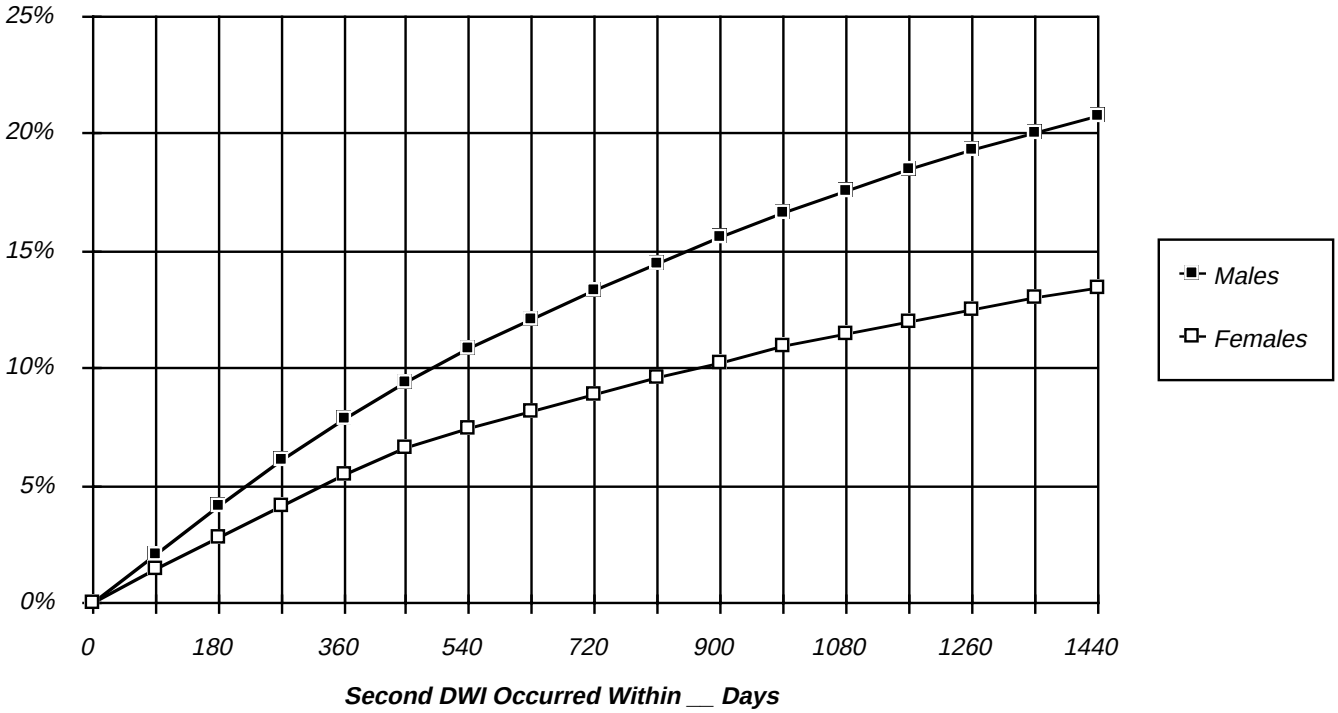


FIG. 19 CUMULATIVE DWI RECIDIVISM BY GENDER: TEXAS, 1985-1988



assessed for DWI, problem drinking (see Appendix B), race/ethnic diversity, urban and rural populations, and the "wet" or "dry" status of counties. These factors may interact to produce differences in DWI arrest rates between regions. Shown in Figure 21 is the percentage of first offenders arrested between 1985 and 1988 who recidivated within four years, broken out by region.

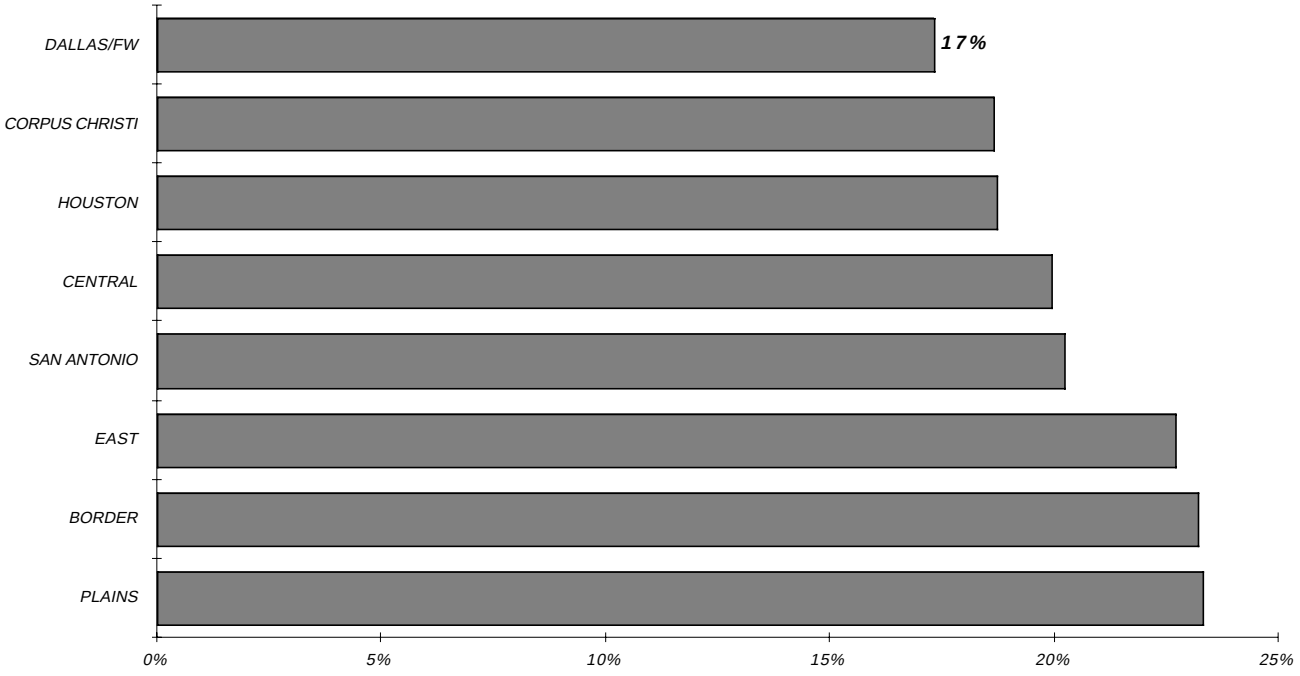
TABLE 2

	Number DWI Offenses			***DWIs Per 10,000 Adult Population***		
Region	First	Repeat	Total	First	Repeat	Overall
Border	19,440	8,856	28,296	48.08	21.90	69.98
Central	25,308	12,639	37,947	50.78	25.36	76.14
Corpus Christi	13,194	6,927	20,121	64.73	33.99	98.72
Dallas/Fort Worth	51,473	22,861	74,334	44.46	19.75	64.21
East Texas	21,198	11,485	32,683	56.73	30.74	87.47
Houston	61,483	27,410	88,893	47.46	21.16	68.62
Plains	35,921	19,492	55,413	64.26	34.87	99.13
San Antonio	31,808	13,099	44,907	78.85	32.47	111.33
Unmatched Zips	1,367	635	2,002	na	na	na
Total	**261,192**	**123,404**	**384,596**	**53.35**	**25.21**	**78.56**

FIG. 20 SURVEY REGIONS

See Appendix B.

FIG. 21 CUMULATIVE FOUR-YEAR DWI RECIDIVISM BY REGION: TEXAS FIRST OFFENDERS, 1985-1988



VI. CONCLUSIONS

From the perspective of Texas DWI countermeasures workload, 1985 through 1988 was a period of change. Driven by declining aggregate alcohol consumption, annual DWI first offender arrests fell by one-third, resulting in an overall reduction in DWI arrests of one-fifth. However, arrests of repeat offenders remained unchanged, indicating that not all Texans moderated their alcohol consumption. Repeat offenders constituted 36 percent of total DWI arrests in 1988, up from 28 percent in 1985. The trend toward an increasing number of repeat offenders indicates a "hardening" of the offender population entering the DWI countermeasures system, which may at least in part account for the increase in blood/breath test refusals, the increase in direct convictions, and the decrease in the probation/DWI education sanction between 1985 and 1988.

These changes suggest that DWI recidivism could be a persistent problem through the foreseeable future. There is evidence that those who refuse the blood/breath test are more likely to recidivate than those who comply with the test, and that blood/breath test refusers who escape conviction are at particular risk for rearrest. There is also evidence that offenders sentenced to direct conviction are more likely to be rearrested than those given the probation/DWI education sanction, and that those completing DWI education are least likely to return through the DWI countermeasures system. While retrospective evidence cannot identify the causes of these differences, it does provide some suggestions about where to look for them.

DWI offenders are at highest risk of recidivism right after initial arrest, and that risk remains high in the year following offense. Those sentenced to probation are under correctional supervision during the period when they are most at risk of having another DWI; exposure to activities that enhance alcohol awareness and encourage those in need to seek treatment may decrease their chances of getting arrested for another DWI. In contrast, those directly convicted or who refuse the blood/breath test and escape conviction are required to spend little or no time under direct correctional supervision.

Some measures which might help reduce overall risk of DWI recidivism include the following:

- Administrative License Revocation (ALR): allow an officer to take possession of a suspected DWI offender's license when the driver fails or refuses a blood/breath test, and to revoke the license for up to one year. Such a provision would discourage driving while risk of rearrest is high and encourage compliance with required blood/breath testing.

- Mandate the DWI Education class for all first offenders including those receiving direct conviction, and do not allow early release from probation.

- Require mandatory DWI Intervention program attendance for repeat offenders as such programming becomes locally available.

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FOOTNOTES

[1] Nichols 1990, 44-45.

[2] Beitel, Sharp and Glauz 1975, and Hause, Voas, and Chavez 1982. Cited studies were performed in contexts of intensive enforcement and actual odds of arrest are likely much lower at most times and in most locations.

[3] Perrine, Peck & Fell 1989, 52.

[4] TDPS 1989, 3, 7, 12.

[5] Harwood, Kristiansen, and Rachel 1986.

[6] Spence et al. 1989; personal communication, Texas Department of Public Safety.

[7] Spence et al. 1989, unpublished research.

[8] TCADA 1990.

[9] Beitel, Sharp and Glauz, op. cit.

[10] Perrine 1990, 26-35.

[11] An estimated 50 percent of fiscal 1985 adjudications, all of fiscal 1986 through 1988 adjudications, and 50 percent of fiscal 1989 adjudications resulted from initial arrests which took place in calendar 1985 through 1988. The same method is used to estimate the number of convictions resulting from arrests made in calendar 1985 through 1988.

[12] Based on alcohol tax records, Texas Alcoholic Beverage Commission. For purposes of comparison, 2.65 gallons of pure ethanol is equivalent to about 50 gallons of beer, 20 gallons of wine, or more than 4 gallons of distilled spirits.

[13] Daily rearrest rate is estimated on the basis of a hazards model.

APPENDIX A:
BLOOD ALCOHOL CONTENT APPROXIMATIONS

Appendix A is unavailable in electronic form. Contact the Commission for a copy of BAC Chart.

APPENDIX B:
TEXAS REGIONAL INFORMATION

Region #1 - Plains
Total Adult Population 1,397,464

ANDREWS
ARCHER
ARMSTRONG
BAILEY
BAYLOR
BORDEN
BRISCOE
BROWN
CALLAHAN
CARSON
CASTRO
CHILDRESS
CLAY
COCHRAN
COKE
COLEMAN
COLLINGSWORTH
COMANCHE
CONCHO
COTTLE
CRANE
CROCKETT
CROSBY
DALLAM
DAWSON
DEAF SMITH
DICKENS
DONLEY
EASTLAND
ECTOR
FISHER
FLOYD
FOARD
GAINES
GARZA
GLASSCOCK
GRAY
HALE
HALL
HANSFORD
HARDEMAN
HARTLEY
HASKELL
HEMPHILL
HOCKLEY
HOWARD
HUTCHINSON
IRION
JACK
JONES
KENT
KIMBLE
KING
KNOX
LAMB
LIPSCOMB
LOVING
LUBBOCK
LYNN
MC CULLOCH
MARTIN
MASON
MENARD
MIDLAND
MITCHELL
MONTAGUE
MOORE
MOTLEY
NOLAN
OCHILTREE
OLDHAM
PARMER
PECOS
POTTER
RANDALL
REAGAN
REEVES
ROBERTS
RUNNELS
SCHLEICHER
SCURRY
SHACKELFORD
SHERMAN
STEPHENS
STERLING
STONEWALL
SUTTON
SWISHER
TAYLOR
TERRY
THROCKMORTON
TOM GREEN
UPTON
WARD
WHEELER
WICHITA
WILBARGER
WINKLER
YOAKUM
YOUNG

Region #2 - Border
Total Adult Population 1,010,842

BREWSTER
CAMERON
CULBERSON
DIMMIT
EDWARDS
EL PASO
HIDALGO
HUDSPETH
JEFF DAVIS
JIM HOGG
KINNEY
LA SALLE
MAVERICK
PRESIDIO
REAL
STARR
TERRELL
UVALDE
VAL VERDE
WEBB
WILLACY
ZAPATA
ZAVALA

Region #3 - Dallas/Fort Worth
Total Adult Population 2,894,213

COLLIN
COOKE
DALLAS
DENTON
ELLIS
ERATH
FANNIN
GRAYSON
HOOD
HUNT
JOHNSON
KAUFMAN
NAVARRO
PALO PINTO
PARKER
ROCKWALL
SOMERVELL
TARRANT
WISE

Region #4 - East
Total Adult Population 934,082

ANDERSON
ANGELINA
BOWIE
CAMP
CASS
CHEROKEE
DELTA
FRANKLIN
GREGG
HARRISON
HENDERSON
HOPKINS
HOUSTON
JASPER
LAMAR
MARION
MORRIS
NACOGDOCHES
NEWTON
PANOLA
POLK
RAINS
RED RIVER
RUSK
SABINE
SAN AUGUSTINE
SAN JACINTO
SHELBY
SMITH
TITUS
TRINITY
TYLER
UPSHUR
VAN ZANDT
WOOD

Region #5 - Houston
Total Adult Population 3,238,672

AUSTIN
BRAZORIA
CHAMBERS
COLORADO
FORT BEND
GALVESTON
HARDIN
HARRIS
JEFFERSON
LIBERTY
MATAGORDA
MONTGOMERY
ORANGE
WALKER
WALLER
WHARTON

Region #6 - Central
Total Adult Population 1,245,977

BASTROP
BELL
BLANCO
BOSQUE
BRAZOS
BURLESON
BURNET
CALDWELL
CORYELL
FALLS
FAYETTE
FREESTONE
GRIMES
HAMILTON
HAYS
HILL
LAMPASAS
LEE
LEON
LIMESTONE
LLANO
MC LENNAN
MADISON
MILAM
MILLS
ROBERTSON
SAN SABA
TRAVIS
WASHINGTON
WILLIAMSON

Region #7 - San Antonio
Total Adult Population 1,008,453

ATASCOSA
BANDERA
BEXAR
COMAL
FRIO
GILLESPIE
GUADALUPE
KARNES
KENDALL
KERR
MEDINA
WILSON

Region #8 - Corpus Christi
Total Adult Population 509,577

ARANSAS
BEE
BROOKS
CALHOUN
DE WITT
DUVAL
GOLIAD
GONZALES
JACKSON
JIM WELLS
KENEDY
KLEBERG
LAVACA
LIVE OAK
MC MULLEN
NUECES
REFUGIO
SAN PATRICIO
VICTORIA

ALCOHOL AND DRUG RELATED PROBLEMS: BY SURVEY REGION

	SURVEY REGIONS							
Alcohol Related Problems:	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**#8**
Felt aggressive or cross while drinking	4.4%	4.6%	5.8%	3.7%	5.3%	5.7%	3.6%	6.1%
Got into heated argument while drinking	4.2%	4.9%	3.2%	3.2%	4.1%	4.0%	4.4%	5.5%
Stayed away from work or school because of hangover	0.3%	2.5%	1.3%	1.4%	1.2%	2.2%	1.7%	1.6%
Were "high" or "tight" when on the job or at school	0.5%	2.0%	1.6%	0.7%	1.5%	1.1%	0.9%	0.7%
Lost or nearly lost job because of drinking	0.4%	1.1%	0.3%	0.3%	0.2%	0.0%	0.2%	0.5%
Spouse or girl/boyfriend urged to cut down on drinking	4.6%	6.0%	4.6%	3.9%	5.6%	5.1%	3.3%	5.1%
Other relative urged to cut down on drinking	3.6%	5.9%	2.9%	3.4%	4.1%	3.2%	3.4%	4.9%
Friend(s) urged to cut down on drinking	1.5%	2.5%	2.0%	1.6%	1.9%	1.2%	0.8%	1.7%
Skipped a number of meals while drinking	2.9%	5.3%	3.5%	3.0%	3.8%	3.8%	4.1%	4.2%
Tossed down several drinks fast for a quicker effect	5.7%	3.7%	4.9%	4.7%	6.1%	6.2%	6.1%	5.4%
Afraid were or might become alcoholic	2.8%	5.2%	3.2%	2.7%	3.9%	2.7%	3.1%	2.6%
Stayed drunk for two or more days in a row	1.5%	1.6%	2.1%	1.0%	0.9%	0.9%	0.6%	0.0%
Difficulty stopping drinking before completely drunk	3.4%	3.0%	2.6%	3.0%	2.4%	1.8%	3.0%	2.7%
Unable to remember things done while drinking	5.5%	7.1%	8.0%	3.9%	7.2%	7.1%	7.0%	6.7%
Had a quick drink or so while no one was looking	3.1%	2.3%	2.5%	3.2%	2.3%	2.6%	2.5%	3.2%
Took a drink first thing in the morning	1.3%	0.9%	1.0%	1.1%	1.0%	0.9%	0.4%	0.9%
Hands shook quite a lot after drinking the day before	1.6%	2.0%	1.3%	1.0%	1.8%	1.7%	2.2%	1.8%
Got "high" or "tight" while drinking by oneself	4.1%	4.5%	5.7%	5.6%	5.8%	4.5%	4.4%	4.9%
Kept on drinking after promising self not to	3.2%	4.5%	4.2%	2.9%	4.3%	4.1%	3.7%	1.9%
Number of Alcohol Related Problems								
One	4.7%	4.2%	6.9%	5.5%	7.7%	7.0%	7.1%	6.1%
Two	2.6%	1.8%	2.5%	2.0%	4.2%	3.3%	4.4%	4.8%
Three	1.6%	2.8%	2.6%	1.0%	1.9%	5.1%	2.6%	2.9%
Four	1.7%	1.6%	2.1%	1.6%	2.2%	2.4%	1.1%	0.9%
Five or more	4.3%	5.5%	4.5%	4.5%	4.7%	2.8%	4.1%	4.4%
Drug Related Problems:								
Became depressed or lost interest due to drugs	0.7%	0.4%	1.1%	0.5%	0.9%	2.2%	1.0%	0.7%
Arguments/fights with family/friends due to drugs	0.6%	0.2%	1.1%	0.0%	1.1%	1.4%	0.8%	0.8%
Trouble at school or on the job due to drugs	0.2%	0.1%	0.5%	0.2%	0.8%	0.4%	0.7%	0.0%
Driven unsafely due to drugs	0.4%	0.1%	0.7%	0.4%	1.4%	0.4%	1.0%	0.3%
Could not remember what happened due to drugs	0.7%	0.1%	1.4%	0.5%	0.9%	0.4%	0.9%	0.3%
Felt completely alone and isolated due to drugs	0.7%	0.4%	1.2%	0.6%	1.0%	1.4%	0.5%	0.3%
Felt nervous and anxious due to drugs	1.2%	0.4%	2.0%	1.4%	1.9%	2.5%	0.9%	1.3%
Health problems caused by drug use	0.5%	0.0%	0.5%	0.1%	0.7%	0.6%	1.5%	0.5%
Difficulty thinking clearly due to drugs	0.9%	0.5%	1.5%	0.1%	1.8%	2.2%	1.3%	0.7%
Serious money problems due to drugs	0.2%	0.0%	0.6%	0.0%	0.5%	0.4%	0.2%	0.5%
Felt irritable and upset due to drugs	0.6%	0.4%	1.3%	0.7%	1.1%	1.5%	0.5%	0.5%
Done less work than usual due to drugs	0.6%	0.2%	0.8%	0.1%	0.8%	0.5%	1.0%	0.5%
Felt suspicious and distrustful of people due to drugs	0.7%	0.2%	1.4%	0.4%	1.4%	1.1%	0.6%	0.5%
Trouble with the police due to drugs	0.3%	0.0%	0.5%	0.0%	0.6%	0.0%	0.4%	0.5%
Skipped four or more meals in a row due to drugs	0.7%	0.5%	0.6%	0.5%	0.6%	1.0%	0.6%	1.0%
Found it harder to handle problems due to drugs	0.4%	0.1%	0.6%	0.0%	0.3%	1.1%	0.5%	0.5%
Had to get emergency medical help due to drug use	0.0%	0.1%	0.2%	0.0%	0.4%	0.4%	0.2%	0.0%
Number of Drug Related Problems								
One	0.9%	0.5%	1.3%	0.9%	1.7%	1.2%	1.0%	0.0%
Two	0.9%	0.1%	0.8%	0.2%	0.6%	0.6%	0.7%	0.6%
Three	0.2%	0.4%	0.3%	0.4%	0.6%	0.5%	0.6%	0.3%
Four	0.0%	0.2%	0.4%	0.2%	0.3%	0.9%	0.2%	0.3%
Five or more	0.7%	0.1%	1.3%	0.4%	1.1%	1.3%	0.7%	0.5%

SURVEY REGIONS: #1=PLAINS, #2=BORDER, #3=DALLAS/FORT WORTH, #4=EAST
#5=HOUSTON, #6=CENTRAL, #7=SAN ANTONIO, #8=CORPUS CHRISTI